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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/811,063	03/16/2001	Joe A. Harrison	INTL-0519-US (P10729)	7275

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EXAMINER

TRAN, THANH Y

ART UNIT	PAPER NUMBER
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2841

DATE MAILED: 06/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/811,063

Applicant(s)

JOE A. HARRISON

Examiner

Thanh Y. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-2 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is unclear as to what Applicants mean by "first spacing" and "second spacing"?

Claim 2 is unclear as to what Applicants mean by "the first spacing comprises a pitch of approximately twice a pitch of the second spacing"?

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-7 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woychik (U.S. 5,629,839).

As to claim 1, as best understood by Examiner, Woychik discloses a circuit board (Fig. 8, element 150) comprising: a substrate; and electrical contacts (152, 160) to mate with a slot connector (see col. 7, lines 15-25), the contacts (152, 160) comprising a first set of contacts (152) and second set of contacts (160); adjacent contacts (152) of the first set having a first spacing

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(158) and a adjacent contacts (160) of the second set having a second spacing (168) different from the first spacing.

Woychik teaches a first set of contacts (152) associated with the communication of power (see col. 8, lines 5-11). However, the limitations “a first set of contacts *associated with the communication of power* and second set of contacts *associated with the communication of signals and not used to communicate power*” is a functional recitation and it is not a structural limitation. It should be noted that the functional recitation (as mentioned above) has not been given patentable weight because it is narrative in form. In order to be given patentable weight, a functional recitation must be express as a “means” for performing the specified function, as set forth 35 U.S.C. 112, 6th paragraph, and must be supported by recitation in the claim of sufficient structure to warrant the presence of the functional language. In re Fuller, 1929 C. D. 172; 388 O.G. 279. The word “associated” with “has been given the broadest interpretation. All electrical parts have some associated relationship.

Claim 2, as best understood by Examiner, figure 8 shows wherein the first spacing (158) comprising a pitch of approximately twice a pitch of the second spacing (168).

As to claim 3, Woychik discloses the substrate (Fig. 8, element 150) comprises an edge to be inserted into a slot connector housing (see Fig. 10), and the first and second set of contacts (Figs. 8, elements 152, 160) are formed on the edge.

As to claim 4, Woychik discloses the substrate (Fig. 8, element 150) wherein the first spacing comprises a pitch (158) of approximately 0.05 inches and the second spacing comprises a pitch of approximately 0.10 inches (see col. 7, lines 8-10).

As to claim 5, Woychik does not disclose a power regulation circuitry mounted on the substrate and in electrical communication with the first set of contacts. However, it was well known in the electrical art that a substrate would include a power regulation circuitry for the purpose of controlling power to electronic components mounted on printed circuit board.

Claim 6 recites limitations similar to claim 3. Woychik further discloses a circuit board (Fig. 8) which *inherently* comprises circuitry. Thus, claim 6 is rejected for the same reasons.

As to claim 7, Woychik further discloses a circuit board (Fig. 8) wherein the profile is engaged by a mechanism (Fig. 10, element 175) located inside the slot connector housing.

As to claim 9, figure 8 shows a circuit board wherein the profile comprises a notch formed in another edge of the substrate (150) (see the notch between legs 158 and 168).

As to claim 10, figure 10 shows a circuit board (150) wherein another edge extends in an orthogonal direction to the edge inserted in the slot connector housing.

5. Claims 15-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dell et al. (U.S. 6,097,883).

As to claim 15, Dell et al. discloses a connector (Fig. 8, element 52) comprising: a housing (54) including a slot (56) to receive a circuit board (10), the housing (54); and electrical contacts secured to the housing (54) to establish electrical communication with electrical contact pads (18, 20) of the circuit board (10) (see Fig. 8, col. 6, lines 1-25).

Dell et al. is silent disclosing the housing (54) being formed from a material having a thermal conductivity of at least approximately 0.27 W/m-K. However, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide

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a housing which is formed from a material having a thermal conductivity of at least approximately 0.27 W/mK, since it has been held to be within the general skill of a worker in the art to select a known material based on the essential working characteristic of the device involves only routine use known to those skilled in the art. *St. Regis Paper Co. V. Bemis co.*, 193 USPQ 8. Absent a showing of criticality no patentable weight is given to .27 W/m-K. See page 6, lines 25-28.

As to claim 16, Dell et al. discloses the material of connector comprises a liquid crystal polymer (plastic) (see col. 6, lines 1-15).

As to claim 17, figure 8 shows the housing (54) comprises fins (66) to promote conduction of heat away from the circuit board (10) when the circuit board (10) is inserted into the slot (56).

Claims 18-24 recite method steps are inherently performed during the making of product claims 15-17.

Claim 25 recites limitations similar to claim 15. Dell et al. further discloses a slot connector (Fig. 8, element 52) comprising a retention mechanism (58) to engage a profile of the circuit board (10) to secure the circuit board (10) to the slot connector (56).

As to claim 26, figure 8 shows the retention mechanism (58) is located entirely inside the slot (56).

As to claim 27, figure 8 shows the retention mechanism (58) comprises a spring (see col. 6, lines 1-5).

Claims 28-30 recite method steps are inherently performed during the making of product claims 25-27.

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6. Claims 8 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woychik (U.S. 5,629,839) in view of Dell et al. (U.S. 6,097,883).

As to claim 8, Woychik does not disclose that mechanism comprises at least one of a spring located entirely inside the connector housing and a plastic latch internal to the connector housing. Dell et al. discloses a circuit board (Fig. 8, element 10) wherein the mechanism (52) comprises at least one of a spring (58) located entirely inside the connector housing and a plastic latch internal to the connector housing (see col. 6, lines 1-15). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to include a plastic socket comprising at least one of a spring, as taught by Dell et al., for holding the substrate as shown in Woychik's reference. Because such modification would provide support for the substrate retaining within the housing securely.

Claims 11-14 recite method steps are inherently performed during the making of product claims 1-10.

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Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Y. Tran whose telephone number is (703) 305-4757. The examiner can normally be reached on Monday through Thursday and on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin, can be reached on (703) 308-3121. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-431.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-956.

TYT

A handwritten signature in black ink, appearing to read 'D. Martin', with a stylized flourish at the end.

David Martin
Primary Examiner